SERVICE MANUAL & PARTS LIST

AEU-425CF / AEU-425CFH

NSN: 6520-01-508-9583

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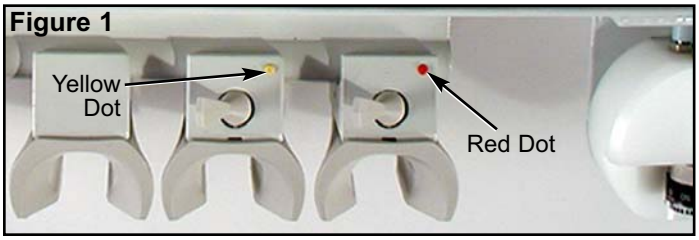
GENERAL SERVICE INFORMATION

This service and parts manual offers information and parts lists not available in the AEU-425CF/CFH Operation and Maintenance Instruction Manual. It will help you better understand how the AEU-425CF/CFH Transport II MDS portable dental system works, thereby reducing service time. Parts drawings, parts photographs, and schematic diagrams show components in their actual places in the unit relative to one another. A plumbing schematic is provided with water lines indicated in blue. Plumbing parts are called out by Aseptico part number in the assembly drawings. An electrical schematic is provided with wires color coded. Electrical parts are called out by Aseptico part number in the assembly drawings. Parts, with photo callouts, are listed in the Parts List. Parts marked "commercially available" are those items that can be purchased at retail hardware stores, and minimize service delays when obtained locally. Use the information in the Parts List when ordering replacement parts.

Inspection & Operation Verification

To verify that the AEU-425CF/CFH unit is functioning properly, first follow the set-up procedure in the Operation & Maintenance manual. Note that connectors from the waste tank must be connected to the underside of the plumbing chassis in order for the compressor motor to turn on. The high vacuum hose is placed in the toggle holder with the yellow dot and the saliva ejector vacuum hose is placed in the toggle holder with the red dot (see Fig. 1). The reason for this is that the unit is operated by a single dual headed compressor.

Figure 1



The compressor is set up to work one head as a pressure side and the other head as the high vacuum side. This is accomplished by using a three way solenoid on the pressure side in conjunction with a pressure switch and relay. The three way solenoid allows for air from the pressure side to be distributed to the air canister or to the atmosphere. When the power switch is turned on, the pressure switch will activate the relay and start the compressor motor. The compressor motor will turn on and the pressure gauge will start to climb to 50 PSI in a few seconds. The delay prevents stalling of the compressor and is shorter once the unit is pressurized. When ever the compressor motor is on, the high vacuum tube will be on. Stalling of the compressor on the vacuum side is prevented by using a vacuum pump plumbed to the input and the output of the head to create a higher vacuum by using the outlet to draw more air thru the inlet and creating an open head to prevent vacuum lock. The high vacuum is electrically tied to the compressor thru the relay. If the system is pressurized and the high vacuum hose is removed from the holder and the toggle on the holder is in the ON position, the compressor will turn on and air from the pressure side will vent to the atmosphere. The saliva ejector works from the pressure side of the compressor thru an air toggle switch with the red dot (Fig. 1) and an air pilot and vacuum pump. When the saliva ejector is removed from it's holder with the toggle on the holder in the ON position, the air pilot is activated allowing air to flow to the vacuum pump. When the saliva ejector is on, the pressure gauge will cycle as the air pressure drops until the pressure sensor turns the compressor on and reaches a pressure of 50 PSI. If the high vacuum is on at the same time, the compressor motor will run continuously and the cycling of the pressure side will not be as audible.

To check the system, verify that unit holds pressure on the pressure gauge and that the pressure toggle switch is in the ON position. Note that when the unit is first turned on, the unit will charge two to three times before pressure is stabilized. If the unit fails to stabilize, or turns on within a few seconds, then an air or water leak is present. Inspect the unit for air or water leaks. It is best to detect air leaks with a tube or a stethoscope. To check the three way syringe, depress the air and water buttons individually and the buttons together for spray. Spray may be adjusted with the syringe water and air adjustment screws in the underside of the plumbing chassis on the left side of the unit (Fig. 2).

Figure 2

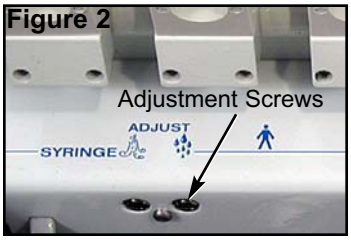
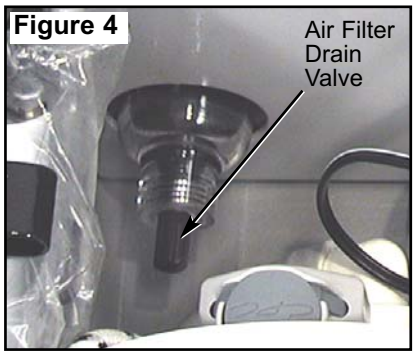


Figure 3

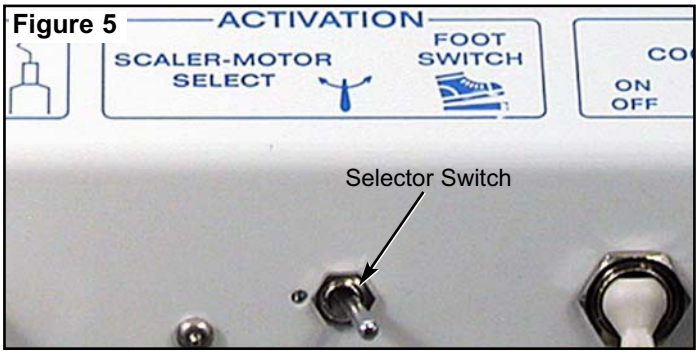
Inspect the water filter on the water pick-up tube (Fig. 3). Water filter requires replacement if it becomes clogged and restricts water flow.

The system has two ways of removing moisture from the air. A removable air chamber and a drainable filter prior to the syringe. To remove condensation from the air bottle, discharge the system and remove the air bottle and shake out the condensation. To remove moisture from the filter, open the valve on the filter in the rear left corner of the plumbing chassis (Fig. 4). Air filter requires replacement if it becomes clogged and restricts air flow.



Vacuum waste container lids should be sealed and holding a vacuum when in operation. HVE solids collector screen should be inspected for blockage and cleaned or replaced if necessary. Waste sensor operation can be checked by turning HVE vacuum on and tilting waste containers upside down individually and verifying that the motor turns off and waste full indicator light comes on.

To verify the **electric handpiece motor**, first connect motor to motor receptacle and connect a handpiece to motor. Place a bit into the handpiece and secure. Switch the SCALER/MOTOR selector switch on the electrical chassis to MOTOR (see Figure 5). Turn the coolant



toggle to the OFF position. Step on the foot pedal and verify that the motor is running. Press the reverse button and verify that the buzzer is on and the drill has reversed direction. To check for water, use a handpiece with a water connector or check the motor to confirm that water is coming from the stem. Turn the coolant toggle to the ON position and adjust the coolant flow to open prior to stepping on the foot pedal. Verify that water is coming out the tube.

To verify the **scaler**, switch the SCALER/MOTOR selector switch (Fig. 5) to SCALER. With a tip on the scaler, turn the coolant toggle to the ON position and open the coolant flow prior to stepping on the pedal. Step on the pedal and place the tip on a piece of metal (penny, etc.) and verify that fluid is present and a high pitch noise is present. Note: If the motor coolant ON/OFF toggle switch is in the ON position, a small amount of water will be present at the handpiece due to the switching of the three way solenoid for the motor/scaler.

The above describes a basic inspection and verification of the AEU-425CF/CFH system. If the unit still does not perform as required, further diagnosis of components in the system may require service Use the Trouble Shooting section as a guide to symptoms and appropriate procedures to fix various problems.

Cleaning and Lubrication

When servicing the AEU-425CF/CFH Military Dental System, the parts of any component disassembled should be thoroughly cleaned and inspected before reassembly. A hot detergent solution is an effective cleaner on all non-electrical parts. Flush all non-electrical parts with clear, hot water. Abrasive cleaners have the potential to damage surface finishes and should be avoided. Any wiping should be done with a soft, lint free cloth.

Electrical parts should be cleaned with an appropriate electrical parts cleaner or air.

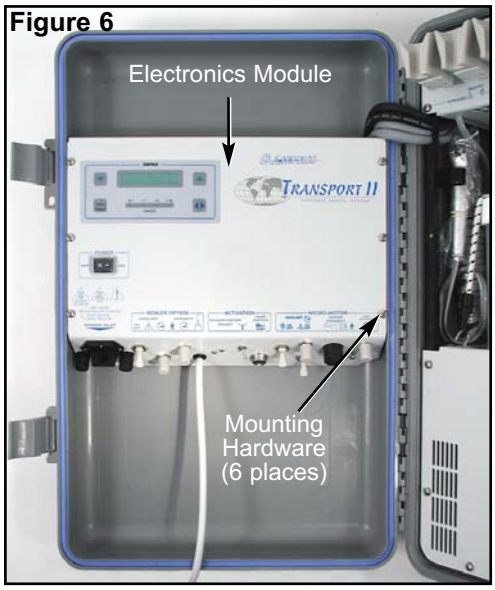
Use a silicone base lubricating grease, such as Dow Corning No. 103 to lubricate O-rings, oral evacuator valves, and seals in the system. Before performing any reassembly of parts that contain O-rings or seals, apply a light coat of silicone grease. This will make installation easier and prevent the O-rings or seals from being damaged.

WATER LINES - Prepare a 1:10 bleach solution (1 part household bleach to 9 part water). Remove water reservoir and discard residual water. Replace empty water reservoir and air purge all waterlines. Fill water reservoir with bleach solution. Run bleach through all lines. Allow bleach solution to stand in lines for 10 minutes. Remove water reservoir and discard bleach. Flush all lines thoroughly with clean water. Air purge and leave t

DISASSEMBLY

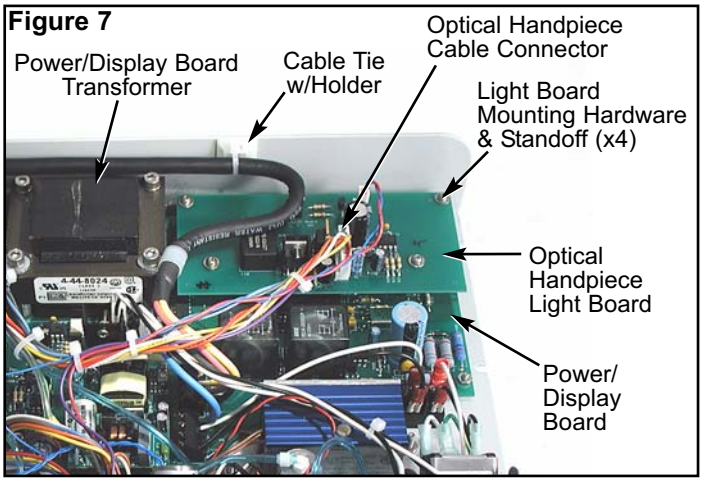
ELECTRONICS MODULE:

Lay unit down. Open cover and remove Electronics Module's six mounting screws and washers with a #2 Phillips head screwdriver (see Fig. 6). To clear power plug and fuse holders when removing Module, lift Module's right side slightly, then slide Module towards the right and remove.



OPTICAL HANDPIECE LIGHT BOARD (PN 330407):

Remove cable connector on Board (see Fig. 7). Remove screws and washers with 1/16 Allen wrench. Reassemble in reverse order.



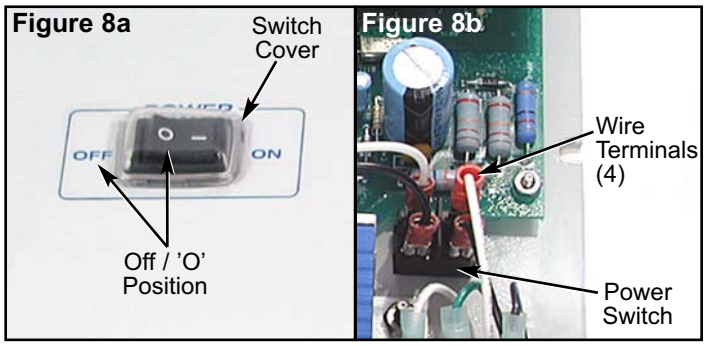
POWER/DISPLAY BOARD (PN 330350):

Remove the Cable Connector from Optical Handpiece Board (Fig. 7). Remove Board mounting screws and washers with 1/16 Allen wrench. Remove Optical Handpiece Board and place to the side. Remove remaining Cable Connectors from Power/Display Board. Clip cable tie going through the holders. Leave other cable ties in place. This will make reassembly easier. Remove the four standoffs on Board with 1/4" socket. Remove the four cap screws and washers with 1/16" Allen wrench. Remove the four cap screws and washers in transformer with 5/32" Allen wrench. Remove Board from chassis.

Reassembly is done in reverse order. Ensure that spacers are present on #4 standoffs prior to installing Board. Reconnect all connectors. Install 1/16" cable ties approximately where previously installed.

POWER SWITCH (PN 830018):

Remove wire terminals from Switch (see Figs. 8a & 8b). Press tabs in on Switch and remove Switch. Remove cover and place on new Switch. Place new Switch into chassis with circle on toggle to the OFF side. Reassemble wires with white to white, and black to black.



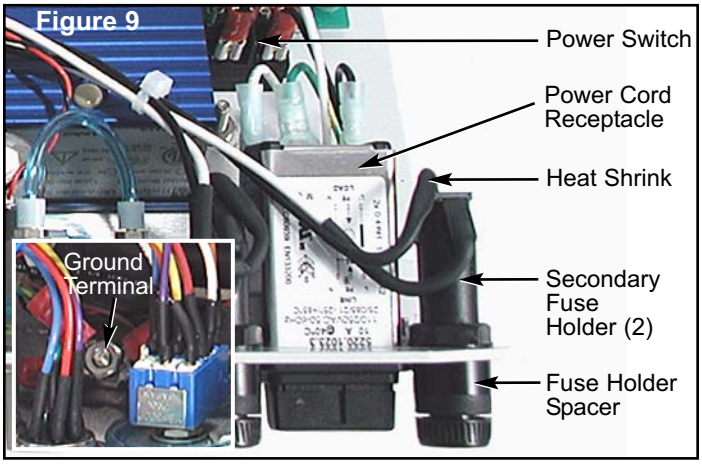
SECONDARY FUSE HOLDERS (PN 830090 - 2 Qty):

De-solder wires from Holder (see Fig. 9). Remove Holder with 9/16" open-end wrench. Take Spacer and place on new Holder and replace Holder. Re-solder and heat shrink wires on Holder (use other Holder as reference). Ensure that sufficient gap between power connector and Holder terminal is maintained to prevent arcing. Place one 0.63 Amp fuse in each Holder.

POWER CORD RECEPTACLE (PN 840067):

Remove wires from Power Switch (see Fig. 9). Remove ground from ground terminal with 5/16" socket. Remove receptacle from chassis with #1 Phillips head screwdriver.

Re-assembly is done in the reverse order. Connect wires to the power switch white to white, and black to black.



TOGGLE VALVES (PN 730010 - Qty 3):

There are three Toggle Valves on Electronics Module: 1.) Scaler Coolant On/Off Switch; 2.) Handpiece Coolant On/Off Switch; and, 3.) Handpiece Coolant Air On/Off Switch. All three Valves can be disassembled in a similar fashion.

Remove tubes from Valve (see Fig. 10). Loosen internal nut with 9/16" thin box-end wrench until outer nut can be removed by hand. Note orientation of Valve. Remove outer nut and Valve. Remove fittings and attach to new Valve.

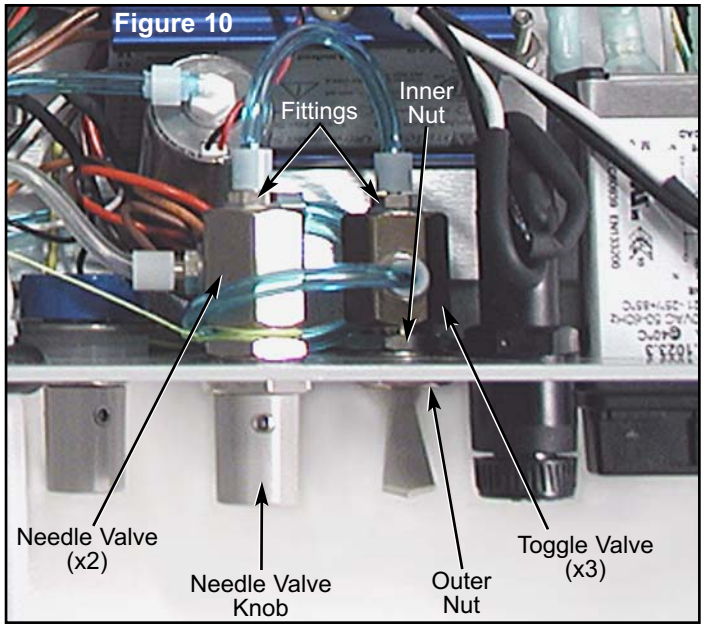
Reassemble with orientation as before. Loosen inner nut so that outer nut can be brought to the chamfer. Use 9/16" open-end wrench on upper body and tighten internal nut with 9/16" thin open-end wrench. This will avoid damage to the outer surface.

NEEDLE VALVES (PN 730066 - Qty 2):

There are two Needle Valves on Electronics Module: 1.) Scaler Coolant Adjust Valve; and, 2.) Handpiece Coolant Flow Adjust Valve. Both Valves can be disassembled in a similar fashion.

Remove the Valve knob with a 1/16" Allen wrench (see Fig. 10). Note orientation of Valve prior to removal. Remove tubes from Valve. Loosen inner nut with a 9/16" thin open-end wrench until outer nut removes freely by hand. Remove outer nut and Valve. Remove fittings and attach to new Valve.

Reassembly with orientation as before. Loosen inner nut so that outer nut can be brought flush to valve surface. Use a 9/16" open-end wrench on upper body and tighten internal nut with 9/16" thin open-end wrench. This will avoid damage to outer surface. Ensure that valve is turned to closed position and replace knob.



FOOT SWITCH RECEPTACLE (PN 875026):

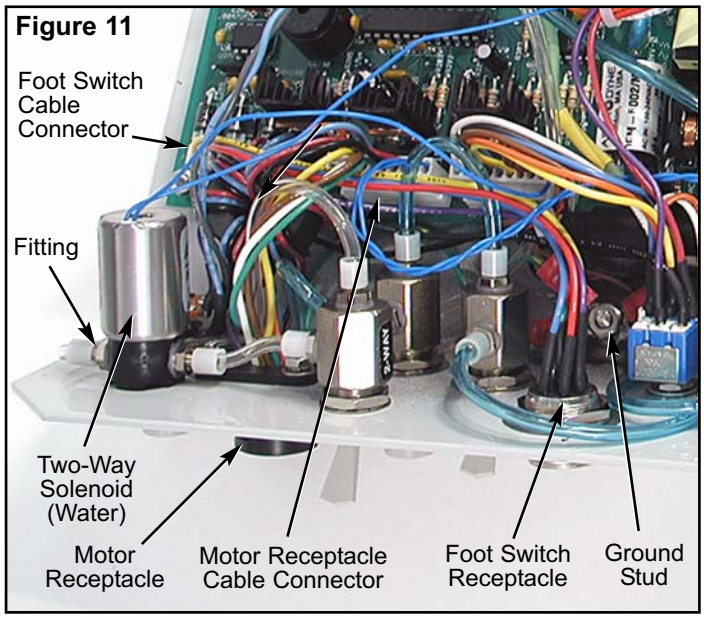
Remove cable connector from Power/Display Board (see Fig. 11). Remove ground wire from ground stud with 5/16" socket. Remove connector from chassis with 3/4" open end wrench.

Reassembly is done in reverse order. Ensure that all ground terminals are reinstalled.

MOTOR RECEPTACLE (PN 875048):

Remove cable connector from Power/Display Board (see Fig. 11). Remove ground wire from ground stud with 5/16" socket. Remove wires from Two-Way Solenoid from the connector. Remove water line and air line from barb. This can be accomplished with a small pair of scissors. Note orientation of connector. Remove four nuts and washers with 1/4" socket. Remove connector from chassis.

Reassembly is done in reverse order. Place connector back in same orientation as before. Place water line to barb closest to Grn/Yel ground wire. Insert Solenoid wires into connector. Ensure that terminals are firmly in connector. Re-attach hardware and connector. Ensure that all ground terminals are reinstalled.



TWO-WAY SOLENOID (PN 730469 - Qty 2):

There are two Two-Way Solenoids on the Electronics Module: 1.) Water On/Off to Motor and Scaler; and, 2.) Air On/Off to Motor. Both Valves can be disassembled in a similar fashion.

The two Two-Way Solenoids are the two valves with blue wires (see Fig. 11). Remove tubing from Solenoid. Remove Motor Cable Connector from Power/Display Board. Remove two blue wires from Connector going to the Solenoid. Remove Solenoid button-head screws with 1/16" allen wrench. Remove fittings from Solenoid and place on new Solenoid.

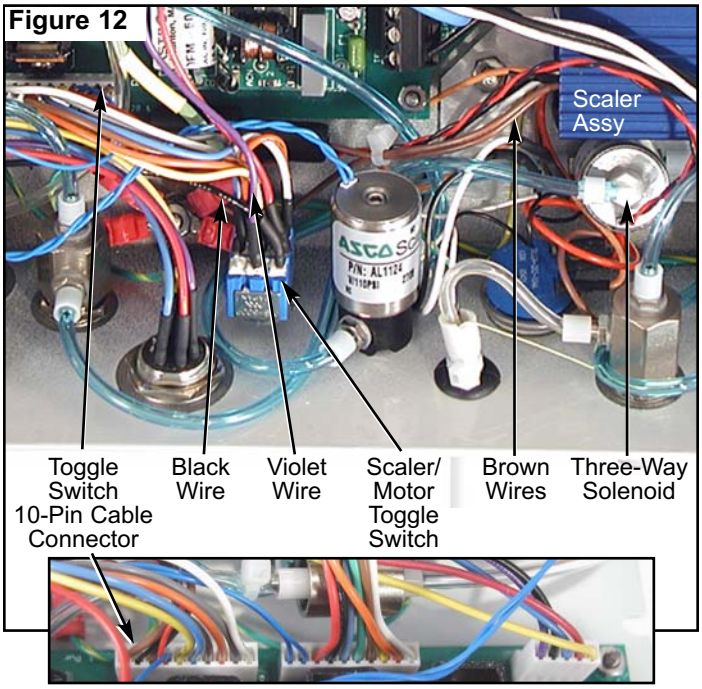
Re-assembly is done in the reverse order. Note: Ensure that the common-marked side of water Solenoid is connected to line coming from Plumbing Module.

SCALER/MOTOR TOGGLE SWITCH (PN 875041):

Remove Toggle Switch 10-pin cable connector from Power/Display Board (see Fig. 12). Remove the red and black wires coming from Three-Way Solenoid. Remove the two brown wires coming from Scaler. Locate and cut the violet and black wires from Toggle Switch. Remove Switch with 3/16" box-end wrench.

Reassemble in the reverse order. Place red wire from Three-Way Solenoid into pin 7 of cable connector. Place brown wire with fuse from the Scaler into pin 8. Place black wire from Solenoid into pin 9 and remaining brown wire from Scaler into pin 10. Ensure that the wires are secure in cable connector. Solder and heat shrink violet and black wires back together. Reinstall cable connector into Power/Display Board.

Figure 12



SCALER TUBE AND HANDPIECE (PN 730500):

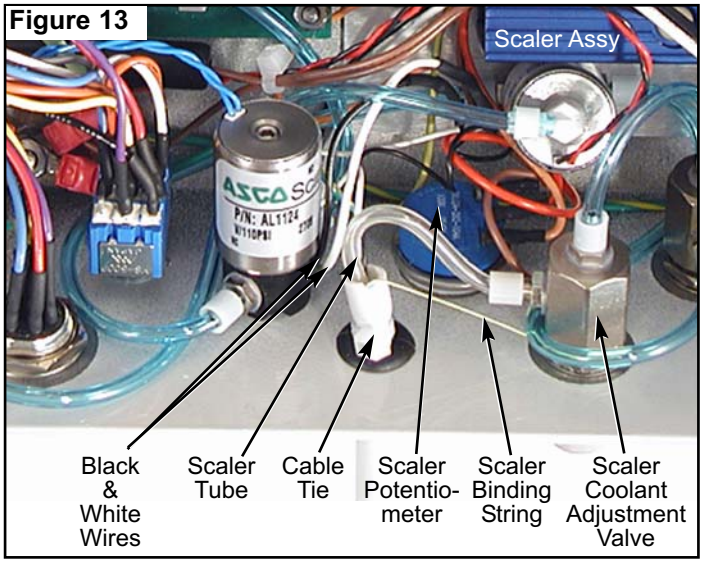
Remove Scaler Tube from fitting on Scaler Coolant Adjustment Valve (see Fig. 13). Cut black and white wire coming from Tube. Remove cable tie and binding string. Pull Tube out thru chassis hole.

Reassemble in the reverse order. After Tube has been inserted thru chassis hole, install cable tie around Tube just above the grommet in chassis and tie off binding string around Scaler Coolant Adjustment Valve. Trim Tube and wires to fit. Re-attach Tube to fitting on Adjustment Valve, and solder and heat shrink the wires. Fill Tube with RTV to prevent pull out.

SCALER POTENTIOMETER (PN 810164):

Make a sketch of the Potentiometer orientation and wiring going to the cable connector in Scaler Assembly (see Fig. 13). De-solder orange, red and brown wires coming from Scaler to Potentiometer. Remove Potentiometer with a ½" box-end wrench.

Figure 13



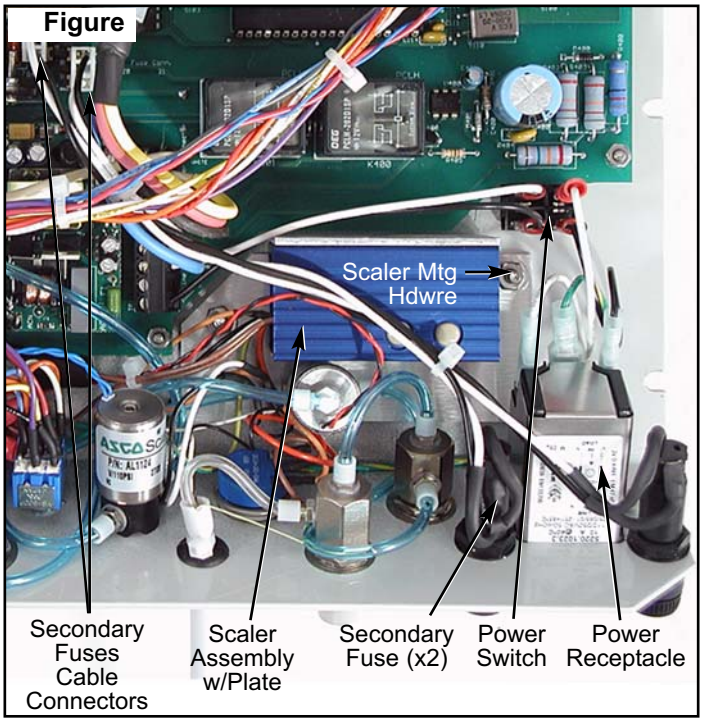
Reassemble in the reverse order. Trim tab off Potentiometer prior to reinstalling. Re-solder and heat shrink wires according to sketch. Also refer to electrical schematics.

SCALER MODULE (PN 730500):

Disconnect the wires from Power Receptacle to Power Switch (see Fig. 14). Disconnect cable connectors from Secondary Fuses to the Power/Display Board. Slide cover back from Scaler and remove connector. Remove nuts and washers holding down the Scaler plate with 5/16" socket. Turn plate upside down and remove screws with #1 Phillips head screwdriver. Remove the module.

Reassembly is done in the reverse order.

Figure

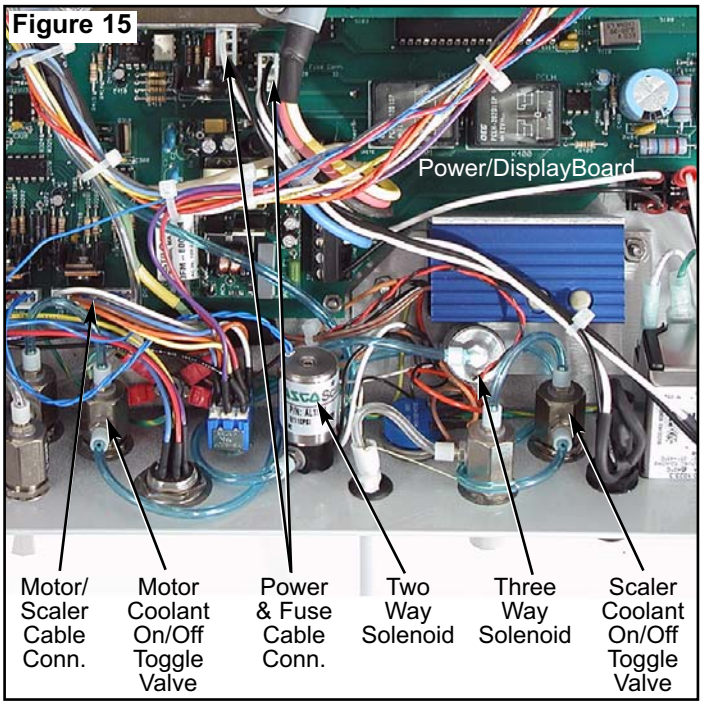


THREE-WAY SOLENOID (PN 730474):

Note the orientation of Three-Way Solenoid on Scaler plate (see Fig. 15). Remove tubing at Three-Way Solenoid. Remove Motor/Scaler cable connector on Power/ Display Board. Remove red and black wires coming from Solenoid. Remove nuts holding Scaler plate with 5/16" socket. Remove Power and Fuse cable connectors from Power/Display Board. Elevate the plate to access the screws to Solenoid. Remove screw with #1 Phillips head screwdriver. Remove fittings and place on new valve.

Reassemble in the reverse order. Orientate Three-Way Solenoid Valve so tube coming from Two-Way Solenoid goes to fitting marked COM (common) on Three-Way Solenoid. The fitting on top of Three-Way Solenoid goes to Motor coolant On/Off Toggle Valve, and fitting marked NC goes to Scaler coolant On/Off Toggle Valve.

Figure 15



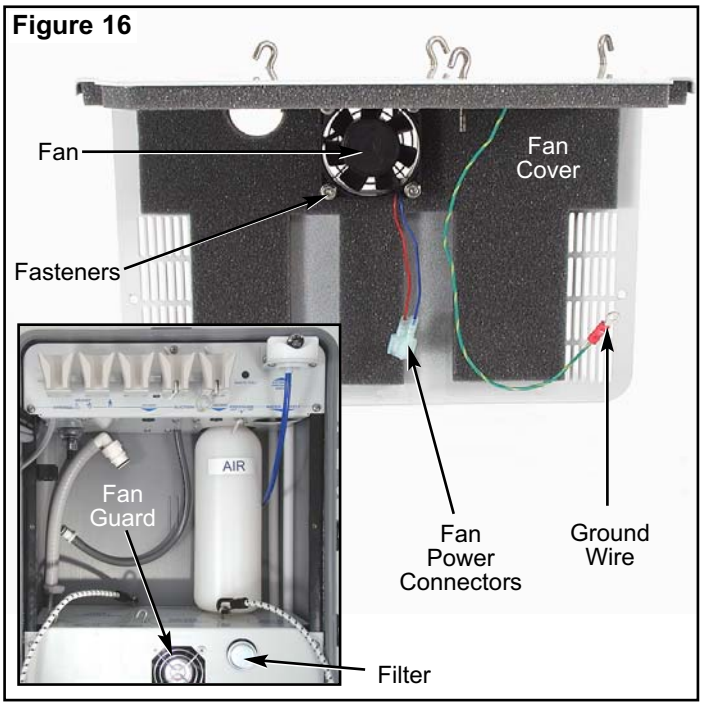
MOTOR MODULE:

• FAN & COMPRESSOR COVER

Lay unit on its back and remove all containers (see Fig. 16). Remove Filter from Compressor Motor with channel locks. Remove the seven Cover-mounting screws and washers with #2 Phillips-head screwdriver. Move Cover up and out to expose wires. Disconnect power cable connectors to Fan and remove ground wire at Motor. Remove Cover from Case. Note orientation of Fan. Remove Fan fasteners with #1 Phillips-head screwdriver and 5/16" socket.

Reassemble in the reverse order. Take care when reinstalling Cover that tubing from Compressor is not kinked.

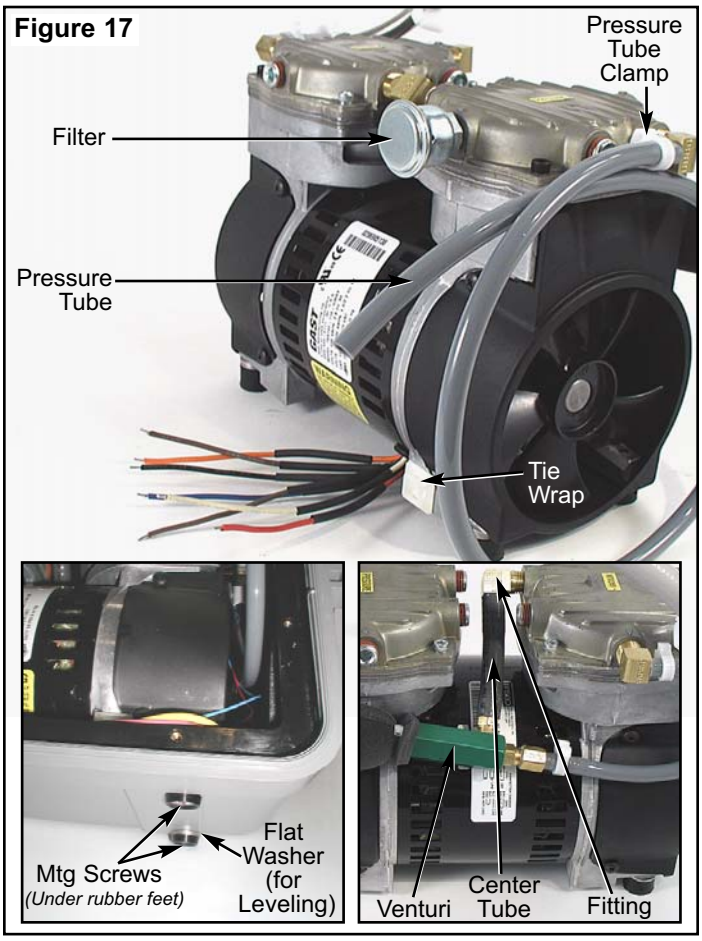
Figure 16

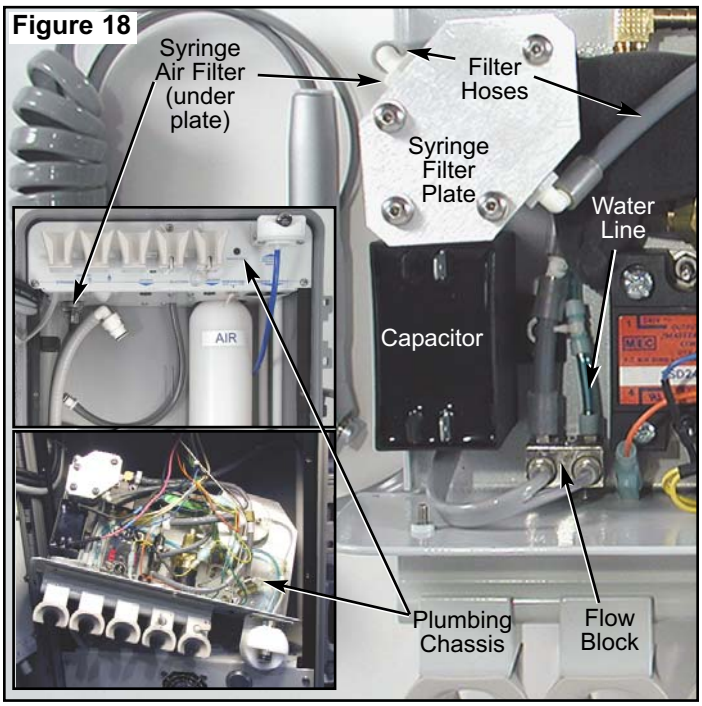


• COMPRESSOR MOTOR (PN 730503):

Remove Filter and Compressor Cover as previously described in FAN DISASSEMBLY. Remove rubber feet on bottom of unit case to expose screws (see Fig. 17). Remove the four mounting screws with #3 Phillips-head screwdriver. Remove cable-tie holding down wires on Motor. Remove ground wire with #2 screwdriver. Cut wires at heatshrink to Motor. Lift Motor 90° and remove pressure tube by removing clamp. (Note: Clamp can be removed by sliding tabs sidways. Removal of Tube is easier if heated slightly with heatshrink gun.) Lift Motor from Case. Note orientation of fittings. Most tubes can be left attached if not damaged. Remove Venturi from large tube in center of Motor by pulling on Venturi. Use adjustable 6" wrench to remove fitting and place in new Motor. Push Venturi back into large tube in middle of Motor. Remove feet and attach in same orientation on new Motor.

Reassembly is done in the reverse order. Position Motor in Case. Ensure that tubing is not kinked. Reattach pressure hose with clamp (use pliers to tighten clamp). Align Motor and mount to bottom of Case with screws and countersunk nylon washers. Note, to level unit, screws and nylon washers are used on front side, while flat washers are added on back side only. Attach new rubber feet. Attach ground wire to Motor. Solder and heatshrink wires. Note that yellow goes to orange, and two brown wires are attached to black and red wires with blue bands. Use 6" wire tie to attach wires to tie mount. Assemble Motor Cover and Filter as described previously in FAN section.





PLUMBING CHASSIS:

Lay unit on its back and remove all containers (see Fig. 18). Remove the three Plumbing Chassis mounting screws and washers with #2 Phillips-head screwdriver. Carefully lower Plumbing Chassis from top of Case and turn over to expose Chassis components (see Fig. 18).

• CAPACITOR (Part of Compressor Motor Assy):

De-solder wires from Capacitor (see Fig. 18). Remove tube from Filter to Flow Block. Remove Capacitor mounting nut with 11/32" socket.

Reassemble in the reverse order. Re-solder wires to Capacitor terminals (wires have no orientation) and heat shrink. Heat shrink and seal (with RTV) rear terminals on Capacitor. Replace tube on Flow Block.

• FLOW BLOCK (PN 460546):

Remove tubes from Flow Block (see Fig. 18). (Note: Removal of tubes is easier if heated slightly with heat shrink gun.) Remove Block mounting screw on bottom of Plumbing Chassis with 1/16" Allen wrench.

Reassembly is done in the reverse order. Remove fittings from old Block and attach to new Block. Note that ribbed line coming from Syringe is designated for water. Attach this line to water fitting on Block which is indicated by water symbol on Chassis front panel.

• SYRINGE AIR FILTER (PN 730495):

Remove the two tubes going to Filter (see Fig. 18). (Note: Removal of tubes is easier if heated slightly with heat shrink gun.) With 3/32" Allen wrench, remove two mounting screws that attach Filter plate to standoffs. Remove plate and fittings from Filter.

Reassemble in the reverse order. It is suggested that Lex 8 lubricant/seal (P/N 490061) be applied to fitting to prevent leakage.

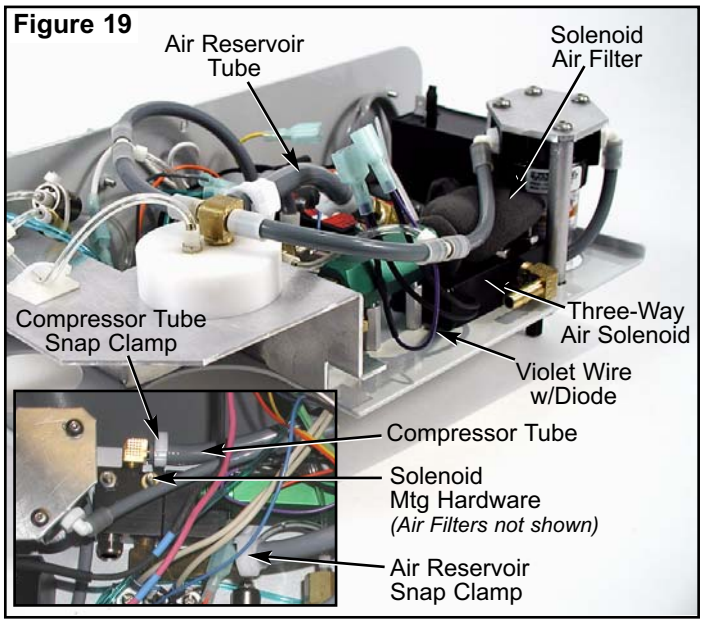
• THREE-WAY AIR SOLENOID (PN 730454):

Remove the screws holding the Saliva Ejector Pump. Remove snap clamp from tube coming from Compressor (see Fig. 19). Remove snap clamp from tube coming from Air Reservoir. Disconnect wires to Solenoid. Remove the two tubes going to Solenoid. (Note: Removal of tubes is easier if heated slightly with heat shrink gun.) Remove Solenoid mounting nuts and washers with 11/32" socket. Remove tube from Air Reservoir to Syringe Air Filter. Remove tie wraps from both Solenoid Air Filters and remove Filters. Remove the Air Solenoid Valve from Plumbing Chassis. Note orientation of fittings. Remove fittings from Air Solenoid Valve and attach to new Valve.

Reassemble in the reverse order. Inspect Air Filters and replace if dirty/clogged. Cut the two wires from Solenoid to approximately 4". Solder one diode (P/N 880030) onto 1" piece of violet wire (22 gauge - stranded) to cathode (bar side) of diode. Solder 4" piece of violet wire (22 gauge - stranded) to other side of 1" wire. Twist 1" wire side to one wire from Solenoid and heat shrink over diode. Twist other wire from Solenoid to 4" wire and

crimp on terminals (P/N 860102) when reattaching.

Figure 19



PLUMBING CHASSIS - Cont'd

• AIR PILOT VALVE (PN 730264):

Remove the three tubes going to Air Pilot Valve (see Fig. 20). Remove nuts and washers with ¼" socket. Remove bracket with two 9/16" open-end wrenches. Remove fittings and place on new Air Pilot Valve.

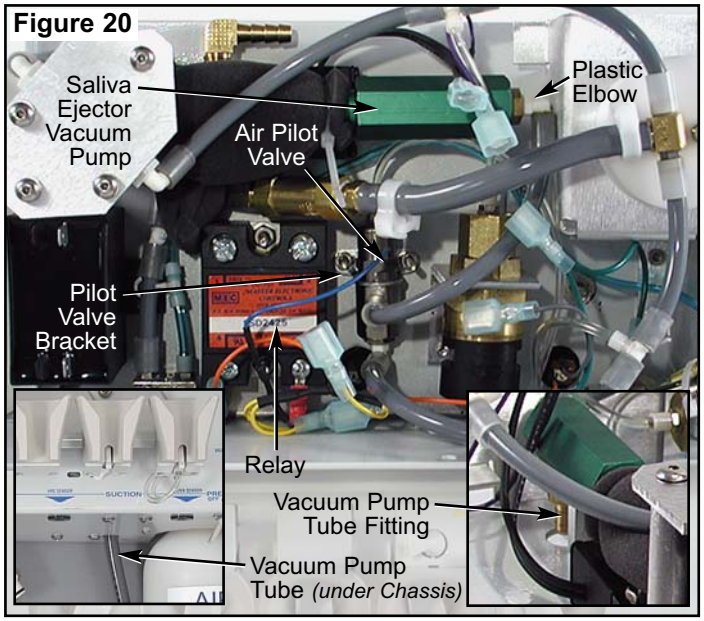
Reassembly is done in the reverse order.

• SALIVA EJECTOR PUMP (PN 730348-08):

Remove tube from underside of Plumbing Chassis to Saliva Ejector Vacuum Pump (see Fig. 20). Remove Vacuum Pump with 3/32" Allen wrench. Remove fitting from Pump. Attach fittings to new Pump. Note orientation of plastic elbow. To prevent leakage, it is suggested that Lex 8 lubricant/seal (P/N 490061) be applied to fittings.

Reassemble in the reverse order.

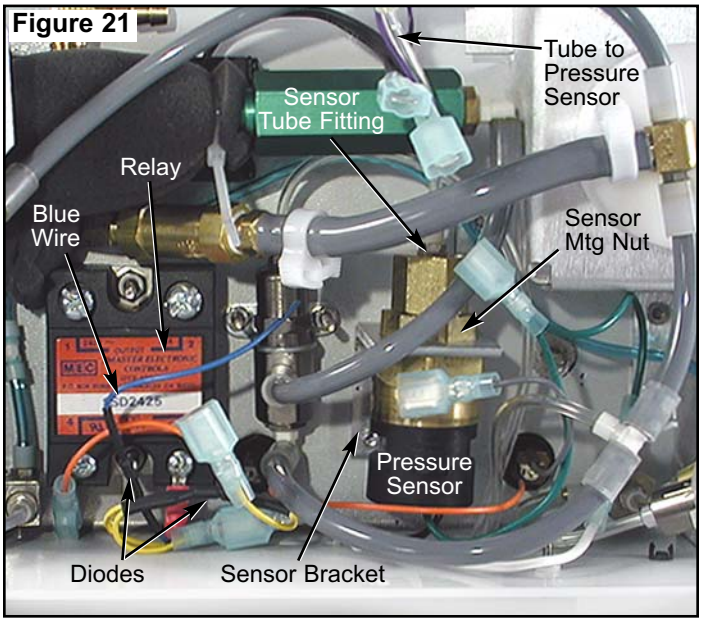
Figure 20



• PRESSURE SENSOR (PN830067):

Remove tube to Pressure Sensor (see Fig. 21). Remove wire connectors going to Pressure Sensor. Remove two screws holding wires from Pressure Sensor to Relay. Cut blue wire from wire harness close to ring terminal. With 3/32" Allen wrench, remove two button-head screws under Plumbing Chassis that attach pressure bracket. Remove Pressure Sensor from Chassis. Remove nut from Sensor with adjustable wrench. Attach fitting to new Pressure Sensor.

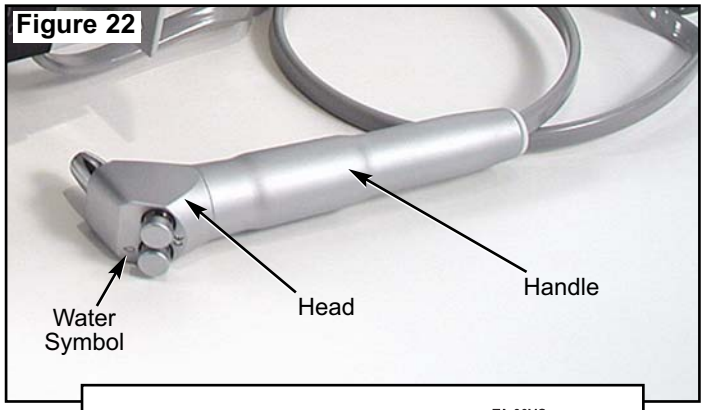
Prepare new Pressure Sensor first when reassembling: Cut red wire flush to Sensor (red wire not used). Cut green wire 4" from Sensor. Cut 4" piece of remaining green wire and attach to green wire from Sensor with terminal (P/N 860102). Attach terminal (P/N 860101) to other end of 4" green wire. Cut black wire from Sensor to 2.5" and solder to anode (not the bar end) of a diode (P/N 880030). Cut 2.5" piece of yellow wire (22 gauge - stranded) and solder to same end. Attach terminal (P/N 860102) to yellow wire. Cut two 2.5" pieces of yellow wire (22 gauge - stranded) and solder to cathode (bar side) of wire. Heat shrink diode and solder joints. Attach terminal (P/N 860101) to one of yellow wires. Cut ¾" piece of blue wire (22 gauge-stranded) and solder to cathode (bar side) on a diode (P/N 880030). Cut 3" piece of blue wire (22 gauge-stranded) and solder to other side of diode. Twist short end of blue wire cathode (bar side) of diode and remaining yellow wire together. Heat shrink over diode. Attach ring terminal (P/N 860004) to cathode (bar side). Attach Pressure Sensor to bracket and reinstall tubing and connectors. Note: Refer to electrical schematic for electrical connections. It is best not to attach bracket to the Plumbing Chassis prior to setting pressure. Twist remaining blue wire with blue wire coming from cable assembly and attach ring terminal (P/N 860004). Remove setscrew from back of Pressure Sensor and install Air and Water Bottles into their holders on Chassis. Plug AEU-425CF/CFH System into power source and turn the Pressure Sensor setscrew clockwise until pressure gauge located on front of Plumbing Chassis reads 50 P.S.I. Replace setscrew and attach Pressure Sensor/bracket.

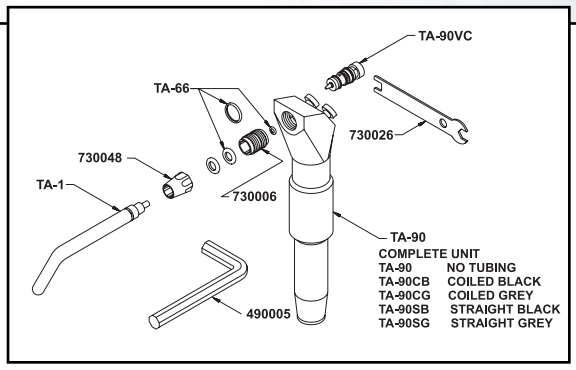


SYRINGE (PN TA-90):

Unscrew handle from Syringe head (see Fig. 22). Remove tube clamps and tubes from fittings on Syringe head. Remove tube clamps from tubes and remove handle.

Reassemble by placing tube through handle and placing tube clamps on tube. Place water tube (designated by ribbed lines on side of tube) to the water side. Water side is indicated by water symbol on head. Attach handle to Syringe head and test for air, water, and spray.



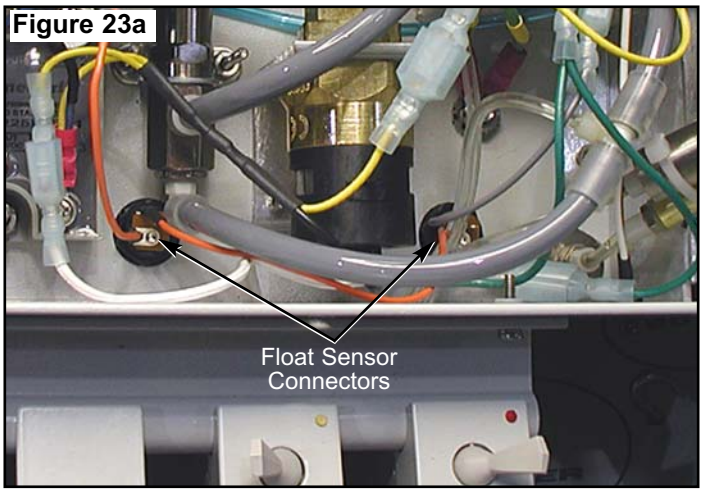


WASTE CONTAINER MODULES

Saliva and High Volume Waste Container
FLOAT SENSOR CONNECTOR (PN 860080):

Disassemble Float Sensor Connectors by trimming back heat shrink and cutting wires to Connectors (see Fig. 23a). Remove nuts that hold Connectors to Plumbing Chassis.

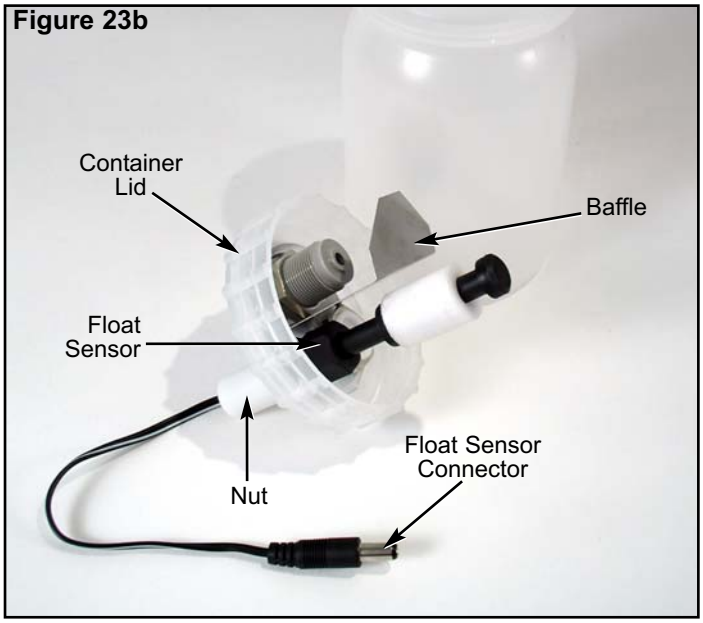
To reassemble, place Float Sensor Connector through Plumbing Chassis. Apply RTV to Connector to avoid leakage. Slide sleeving over wires. Attach nut to Sensor.

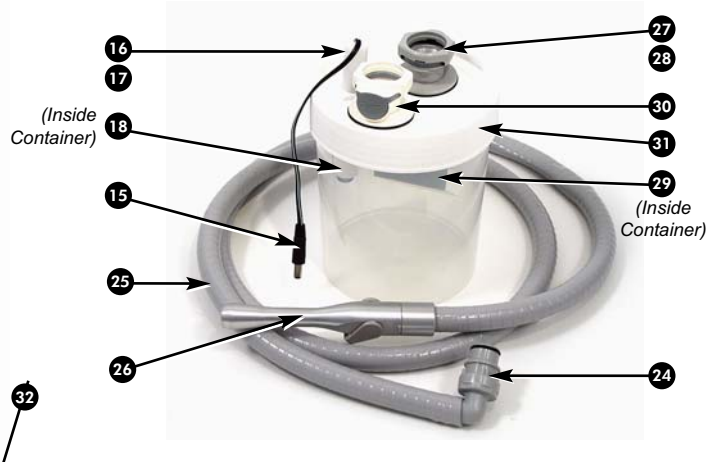


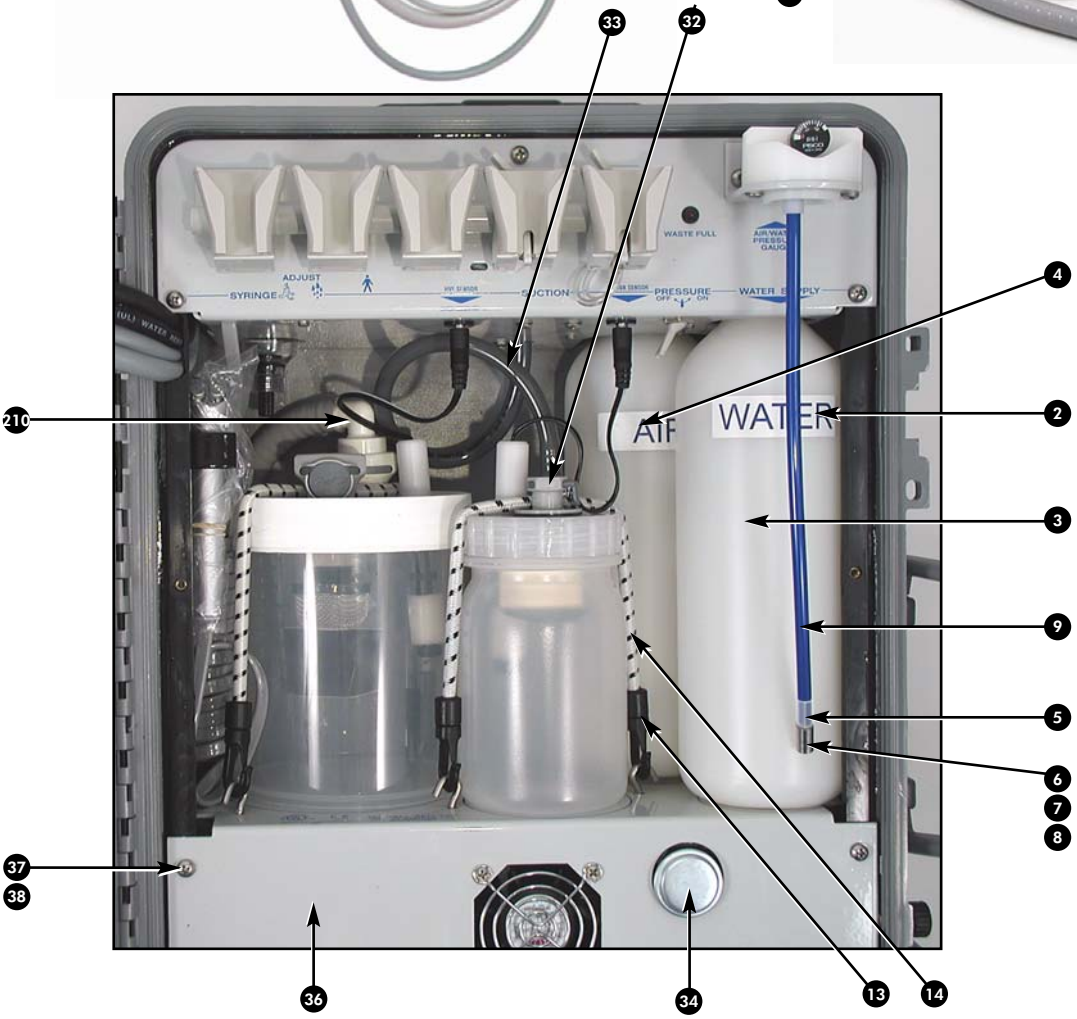
WASTE CONTAINER FLOAT SENSOR (PN 730514):

Remove nut (see Fig 23b). Cut wires and remove Sensor.

To reassemble, resolder new Sensor wire and apply heat shrink. Reattach nut.



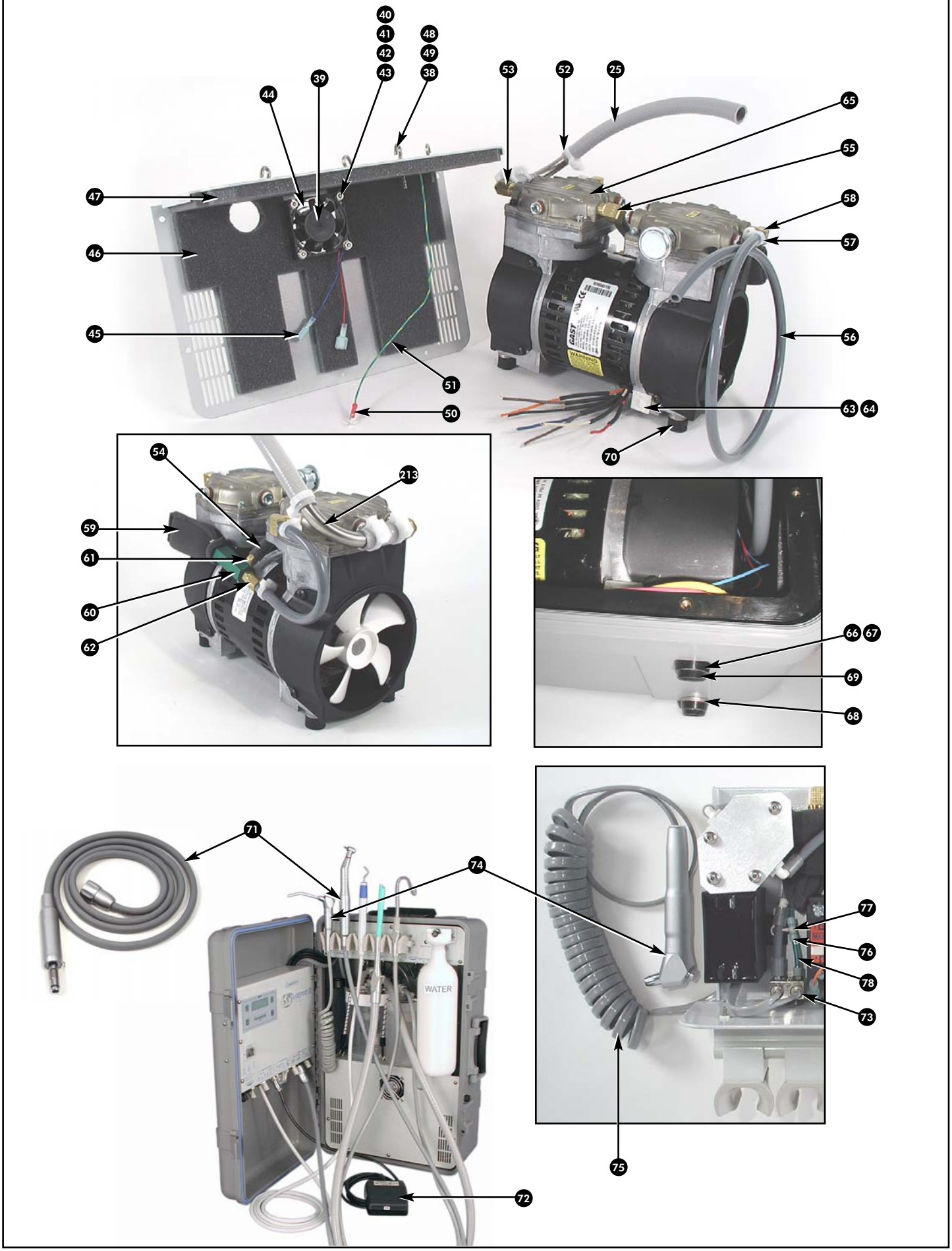




35

(Note: Item No. 35 Shown on Page 20)

ITEM	DESCRIPTION	PART NO.	Qty
1	AEU-425CF FINAL ASSY	120284	1
2	LABEL MYLAR AEU-425 WATER	420299	2
3	BOTTLE 1LT ROTO-MOLDED HDPE	730471	2
4	LABEL MYLAR AEU-425 AIR	420307	1
5	FTN 1/4 CLEAR SLEEVE (BINSTOCK)	730042	16
6	FILTER 10-32 THREAD STAINLESS	730326	1
7	FTN BARB 10-32 X 1/8 BRT/NKL (BINSTOCK)	730073	6
8	GASKET NYLON #10 (BINSTOCK)	730074	24
9	TUBING POLY 1/4OD BLU (BINSTOCK)	AA-95B	0.81 Ft
10	FTN QD CPC ELBOW MALE 1/4" BARB	730353	1
11	TUBING SALIVA EJECT 3/8OD GRY	AA-86G	5.5 Ft
12	VALVE SAL/EJECT AUTOCLAV LEVER	AA-37LA	1
13	HOOK 1/4" BLACK PLASTIC	730371	4
14	CORD BUNGEE 1/4" DIA.	730370	1.83 Ft
15	CABLE DC POWER 2.1mm 24AWG BLK 72 INCHES LONG	870279	2
16	NUT FLOAT AEU-425 SENSR RETAIN	461149	2
17	O-RING .380ID X .091CS EP70 TABLE 300028	520028	2
18	SENSOR REED FLOAT POLYPROPYLEN INNOVATIVE COMPONENTS	730514	2
19	FTN QD FEM 1/4" PNL MNTG MOD	730516-08	1
20	GASKET AEU-425 AIR BOTTLE	461011	1
21	FTN QD CPC PANEL MNT 1/4" MOD	730352-08	1
22	BAFFLE AEU-425 SALIVA BOTTLE	461150	1
23	BOTTLE 1 PINT LID AEU-425 MOD	730272-04	1
24	FTN QD CPC ELBOW MALE 1/2" BARB	730355	1
25	TUBING ASEPSI-FLEX 1/2ID GRY	AA-83A	6.21 Ft
26	VALVE CENT VAC UNIV LEVER AUTO	AA-35LA	1
27	STRAINER 1/4NPT 20 STAINLESS MESH PVC BASE	730335	1
28	FTN QD CPC PANEL MNT FEM 1/2" MOD BARB	730354-08	1
29	BAFFLE VACUUM BOTTLE AEU-425	461071	1
30	FTN QD FEM 1/2" POLYSULF MODFD PANEL MOUNT MODIFIED	730486-08	1
31	BOTTLE 1000mL W/LID MODIFIED AEU-425	460877	1
32	FTN QD PLC STRAIGHT MALE 1/4" ACETAL	730515	1
33	TUBING 3/8OD X .062W GRY URETH	730374	1.0 Ft
34	FILTER BREATHER VENT 1/4-18NPT WITH SCREEN NYLON FILTRATION	730461	1
35	TERM FEM .250 X .032 16-14AWG BLUE (BINSTOCK)	860101	13
36	CHASSIS AEU-425 MOTOR COVER CMPL	460856-08	1
37	M/S STNLS PHDPHL 8-32X3/8 (BINSTOCK)	510247	2
38	WASHER INT STAR S/S #8 (BINSTOCK)	510420	36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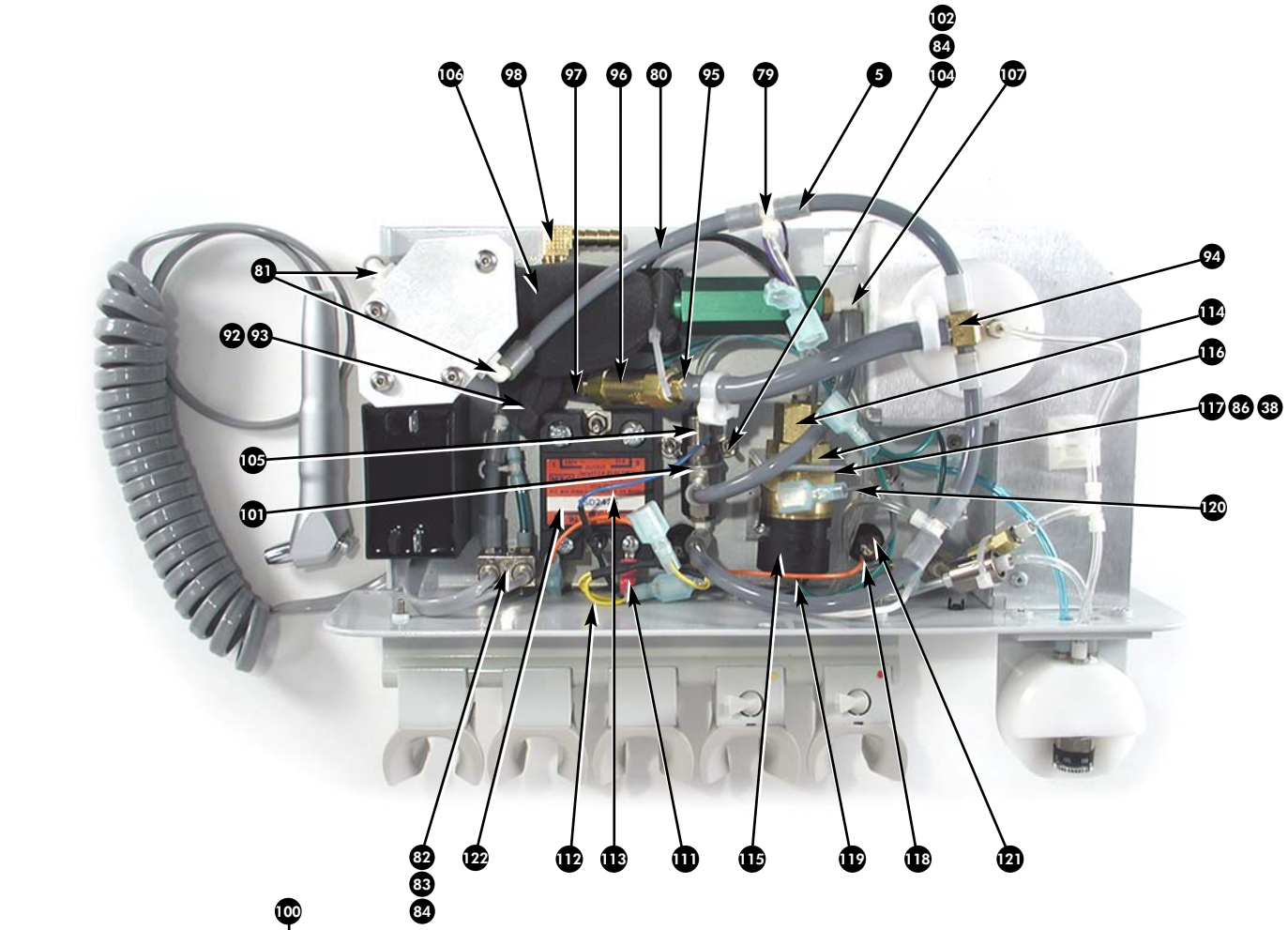
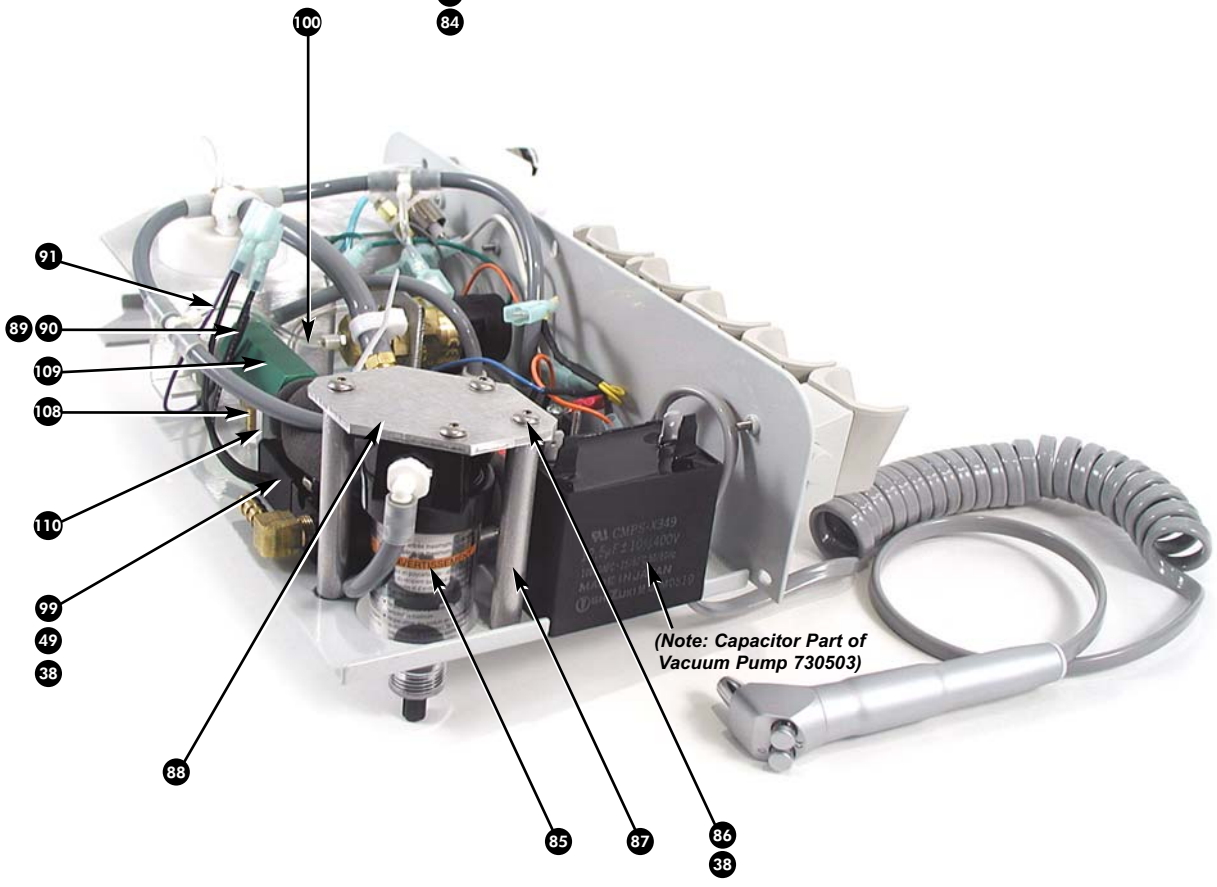
WATER

ITEM	DESCRIPTION	PART NO.	Qty
39	FAN 24V 23.3CFM 60X60X25mm AEU-425	540005	1
40	M/S STNLS FLAPHL 6-32 X 1.375	510528	4
41	NUT HEX 6-32 STNLS (BINSTOCK)	510293	8
42	WASHER INT STAR S/S #6 (BINSTOCK)	510419	11
43	WASHER FLAT STNLS #6	510431	4
44	GUARD FAN 60mm	730485	1
45	TERM MALE .250 X .032 16-14AWG BLUE	860102	10
46	FOAM MOTOR COVER FRONT AEU-425	461048	1
47	FOAM MOTOR COVER TOP AEU-425	461049	1
48	BOLT STNLS HOOK 1/4HOLE8-32THD 1.7" MAX LENGTH .14 WIRE DIM	510486	4
49	NUT HEX 8-32 STNLS (BINSTOCK)	510428	5
50	TERM INSUL RING #8 22-16 RED (BINSTOCK)	860068	6
51	WIRE PVC #18 500FT GRN/YEL-300V (BINSTOCK)	870261	1.79 Ft
52	CLAMP HOSE SNAPPER .616/.707	510425	5
53	FTN 1/4NPT X 1/2" BARB	730484	1
54	TUBING 1/2OD X .062W GRY URETH	730373	0.21 Ft
55	FTN 3/8 HOSE BARB X 1/4NPT 90 DEG ELBOW	730414	1
56	TUBING 3/8OD X .245ID GRY POLY 90 DURMETR 250FTREEL	730312	3.5 Ft
57	CLAMP HOSE SNAPPER .351/.394	510450	6
58	FTN 1/4 HOSE BARB X 1/4MPT 90D ELBOW	730443	2
59	FILTER MOTOR VENTURI AEU-425CF	330488	1
60	PUMP VACUUM AIR-VAC SINGLE STAGE	730348	1
61	FTN 1/8 MPT X 3/8 BARB MODIFID	730366-08	1
62	FTN 1/4 HOSE BARB 1/8FPT STRT	730498	1
63	TIE WRAP 4" PICO WHT, (BINSTOCK)	510137	11
64	TIE WRAP MOUNT 1X1 W/ADH BACK (BINSTOCK)	510206	11
65	PUMP VACUUM DUAL VOLT AEU-425 & ADU-12	730503	1
66	M/S STNLS FLAPHL 1/4-20 X 3/4	510538	4
67	WASHER 1/4" NYLON COUNTERSUNK	510527	4
68	WASHER USS STNLS 1/4 FLAT 3/4OD X 5/16ID, (BINSTOCK)	510297	12
69	FOOT BUMPER .5 X.14 CYLIN BLK (BINSTOCK)	850008	4
70	MOUNT RUBBER 1/2"HX3/4"D W/1/4 -20 STUD AND HOLE	730462	4
71	MOTOR/CABLE ASSY W/LIGHT & H2O	AE-200-30	1
72	FOOTSWITCH ON/OFF 8 PIN	AE-7P	1
73	FTN 1/8ID SLEEVE CLAMP CLEAR (BINSTOCK)	730015	29
74	SYRINGE 3-WAY AIR WATER SUPPLIED WITH NO TUBING	TA-90	1
75	TUBING 2H POLY COIL SYNG GRY	AA-84G	1
76	FTN 1/8 DELRIN UNI-CLAMP (BINSTOCK)	730096	10
77	FTN BARB 1/16 DELRIN TEE	730152	2
78	TUBING POLY 1/8OD BLU (BINSTOCK)	AA-94B	5.5

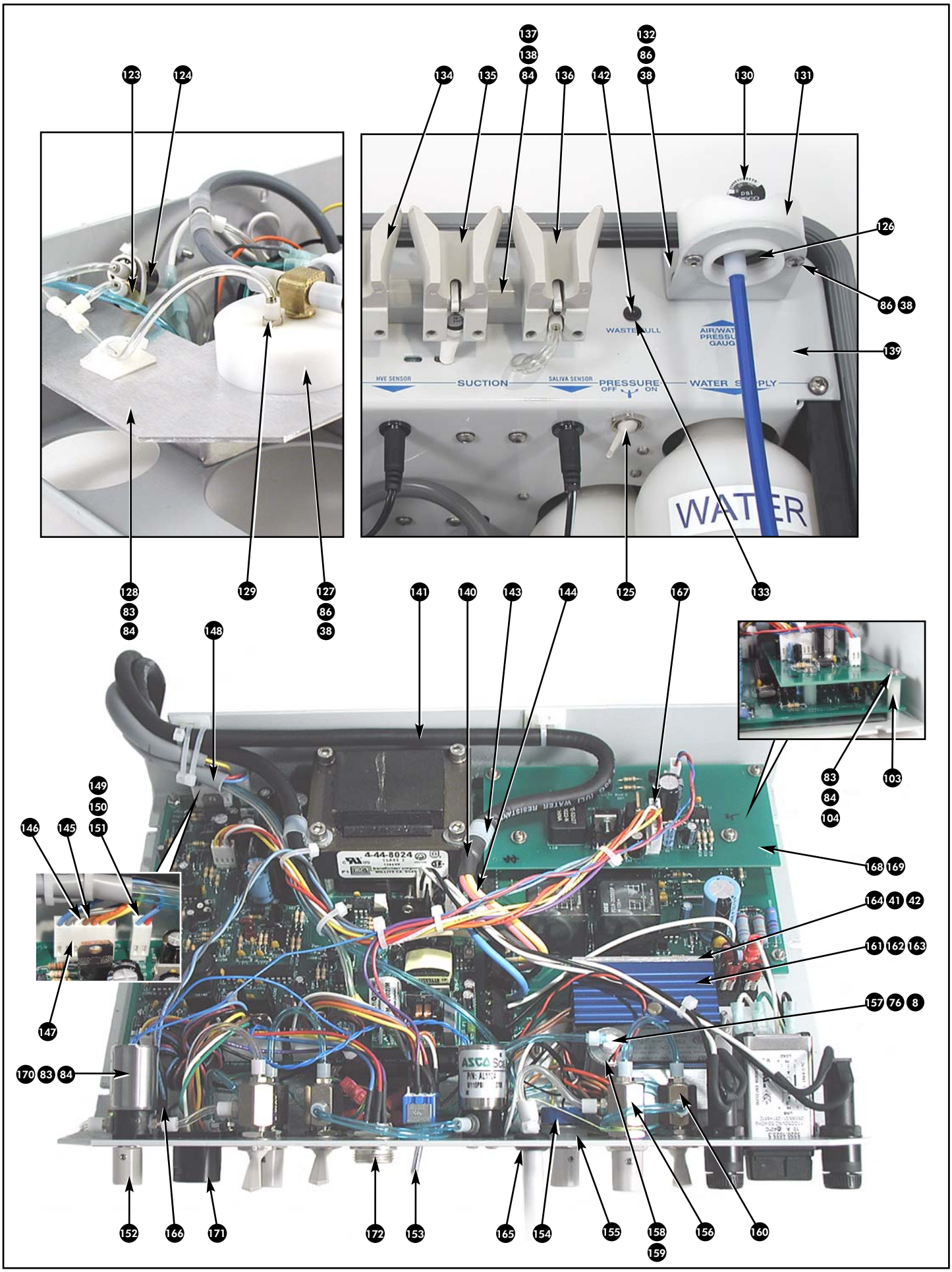




103

(Note: Item No. 103 Shown on Page 16)

ITEM	DESCRIPTION	PART NO.	Qty
79	FTN BARB 1/8 X 1/16 X 1/8 TEE	730044	3
80	TUBING POLY 1/4ODX.159ID GRY 90 DUROMETER	AA-95G	2.27 Ft
81	FTN 1/8 NPT X 1/8 90 DEG. BARB	730302	2
82	BLOCK FLOW ADJUSTMENT MODIFIED USE PN 730022	460546	1
83	C/S BTNSOC STNLS 4-40X1/4 TABLE 300010, (BINSTOCK)	510016	6
84	WASHER SPLIT STNLS #4 (BINSTOCK)	510433	18
85	FILTER 1/8" NPT 5 MICRON	730495	1
86	C/S BTNSOC STNLS 8-32 X 3/8 (BINSTOCK)	510404	13
87	STANDOFF 3/8 ROUND X 2-5/8"L X 8-32 THREAD ALUMINUM	510529	2
88	MOUNT AEU-425 FILTER	460898	1
89	HEAT SHRINK 1/8 BLK TABLE 300011 (BINSTOCK)	870118	0.28 Ft
90	DIODE IN4004 GEN PURP 400V (BINSTOCK)	880030	3
91	WIRE PVC #22 500FT VIO (7) 1007-22730-7 (BINSTOCK)	870049	3.08 Ft
92	FILTER SOLENOID RELIEF AEU-425CF	330490	1
93	MUFFLER/FILTER SINTERD BRNZ 1/8 MPT	730450	1
94	FTN 1/4 HOSE BARB 1/8MPT MOD	461015	1
95	FTN 1/4 HOSE BARB 1/8NPT STRT	730451	1
96	VALVE CHECK 100PSI 1/8FPT BRAS	730453	1
97	FTN ELBOW 90DEG 1/8 MPT	730432	1
98	FTN 1/4 HOSE BARB-1/8MPT	730121	1
99	VALVE AIR 3 WAY 2POS 1/8FPT IN-LINE	730454	1
100	TUBING POLY 1/8OD CLR (BINSTOCK)	AA-94C	6.03 Ft
101	BRKT 90DEG X 31/64" DIA MNTNG	730245	1
102	NUT HEX 4-40 STNLS (BINSTOCK)	510434	10
103	SPACER NYL 4-40X5/8LX1/4OD HEX	510478	4
104	WASHER FLAT STNLS #4 (BINSTOCK)	510192	6
105	VALVE AIR PILOT 2WAY W/O EX NO	730264	1
106	FILTER SALIVA VENTURI AEU-425CF	330489	1
107	FTN BARB 10-32 X 1/8 90D ELBOW (BINSTOCK)	730023	2
108	FTN 1/8MPT X 1/4 DOUBLE BARB	730345	1
109	VACUUM PUMP SINGLE STAGE	730348-08	1
110	STANDOFF M/F #8 X 0.75	510602	2
111	TERM INSUL RING #6 22-16 (BINSTOCK)	860004	4
112	WIRE PVC #22 1000FT YEL (4) 1007-22730-4 (BINSTOCK)	870046	3.29 Ft
113	WIRE PVC #22 1000FT BLU (6) 1007-22730-6 (BINSTOCK)	870048	7.5
114	FTN REDCR COUPLNG 1/4FPT TO10- 32-UNF-2B BRASS HEX	730459	1
115	SWITCH PRESR10-100PSI 12/24VDC AEU-425	830067	1
116	NUT LOCK 1/4 NPSL AEU-425	730430	1
117	BRKT AEU-425 PRESSURE	460900	1
118	HEAT SHRINK 3/32 BLK	870116	0.08 Ft
119	WIRE PVC #22 1000FT ORN (3) 1007-22730-3 (BINSTOCK)	870045	3.42 Ft
120	WIRE PVC #22 500FT GRY (8) 1007-22730-8 (BINSTOCK)	870050	3.0 Ft
121	CONN JACK 2.1MM RND PLASTIC BLK CHASSIS/PANEL MOUNT	860080	2
122	RELAY 24VDC 280VAC 25 AMPS	800084	1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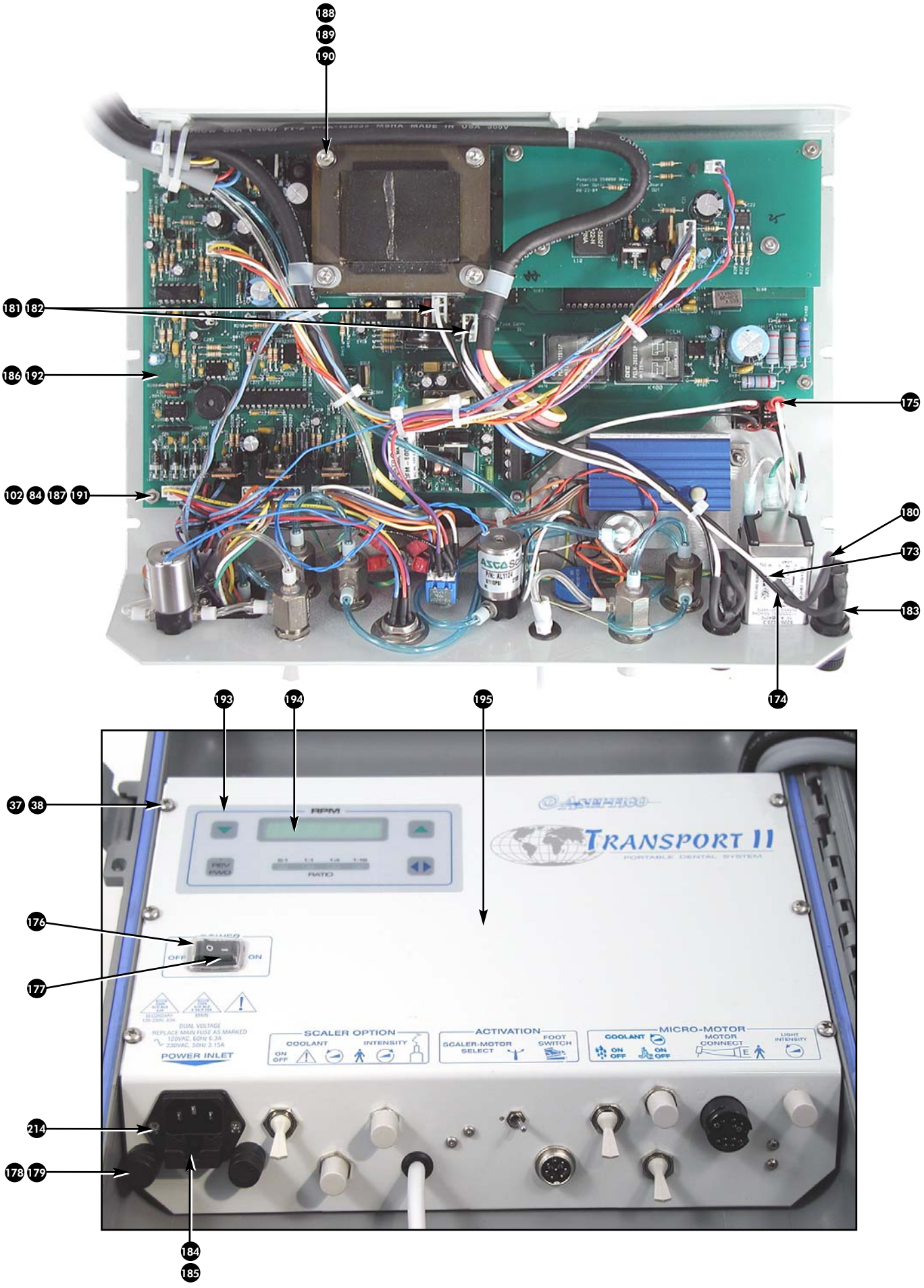
ITEM	DESCRIPTION	PART NO.	Qty
123	VALVE CHECK AIR ANTI RETRACTIN AEU-425	730428	1
124	REGULATOR 35 PSI MINI FIXD	730521	2
125	VALVE TOGGLE 3W/2P GRY W/EX	730014	1
126	GASKET FOR NWS-8 BOTTLE LID	730473	2
127	CAP AIR BOTTLE 1 LITER AEU-425	461420	1
128	CHASSIS BOTTLE AEU-425	461422	1
129	FTN BARB 10-32 X 1/16 PLATED (BINSTOCK)	730062	18
130	GAUGE PRESSURE 100 PSI 10/32	730550	1
131	CAP WATER/GAUGE AEU-425	461421	1
132	BRACKET WATER AEU-425 CMPL	461419-08	1
133	BEZEL LED T 1-3/4 ONE PCE BLK (BINSTOCK)	850013	1
134	HOLDER 1/2D UNIVERSAL GRY	AA-68G	2
135	HOLDER ELECTRIC AUTOMATIC W/ LOCKOUT TOGGLE GRAY	730417	1
136	HOLDER AUTO W/LOCKOUT HPCE GRY	AA-59G	1
137	HOLDER BAR 1/2D QUAD GRY	AA-67Q	1
138	M/S STNLS PHDPHL 4-40X1/2 (BINSTOCK)	510191	2
139	CHASSIS AEU-425 PLUMBING CMPL TRANSPORT II DENTAL	460857-08	1
140	HEAT SHRINK 3/8 BLK TABLE 300011	870117	0.5 Ft
141	CABLE 4 COND #18 BLK SJOW-A 300V 0.330" DIA.	870251	12.42 Ft
142	LED T 1-3/4 RED (BINSTOCK)	880025	1
143	CLAMP CABLE NYLON 5/16 DIA W/ .203 MNTG HOLE WHITE	510410	2
144	HEAT SHRINK 1/8" YELLOW (BINSTOCK)	870254	0.5
145	WIRE PVC #22 1000FT BRN (1) 1007-22730-1 (BINSTOCK)	870043	3.0 Ft
146	WIRE PVC #22 1000FT WHT (9) 1007-22730-9 (BINSTOCK)	870051	3.0 Ft
147	CONN .1 HSNG LOCK/PL 7 PIN	860137	1
148	TUBING SILICONE .281IDX.375OD 70 DURO GRAY	730489	2.0 Ft
149	WIRE PVC #22 1000FT RED (2) 1007-22730-2 (BINSTOCK)	870044	4.58 Ft
150	CONN .1 TERM CRIMP LOOSE 22-30 (BINSTOCK)	860023	11
151	CONN .1 HSNG LOCK/POL 2 PIN	860076	4
152	KNOB GRY PLASTIC 1/4D STYLE II	850012	1
153	WIRE ASSY AEU-425 SWITCH SCALR WITH FIBER OPTICS	875041	1
154	RES POT LIN 100K PCB TERM (90D) (PART OF ASC-10 SCALER ASSY)	810164	1
155	WASHER NYL .505IDX.750ODX.062T (BINSTOCK)	510175	3
156	VALVE NEEDLE CONTROL W/O KNOB	730066	2
157	FTN ELBOW 90 10-32 X 1/16BARB WHITE NYLON	730011	1
158	VALVE 3 WAY SOLENOID 24V	730474	1
159	M/S STNLS FLAPHL 4-40X3/8 (BINSTOCK) FLAT UNDERCUT	510112	2
160	VALVE TOGGLE 2W/2P GRY W/O EX	730010	3
161	SCALER ASSEMBLY SYSTEM	ASC-10	1
162	M/S STNLS FLAPHL M3 X 6mm	510530	2
163	SCALER ASSEMBLY SYSTEM	730500	1
164	PLATE AEU-425CF SCALER	461094	1
165	GROMMET 1/4" NEOPREME BLK (BINSTOCK)	870185	1
166	RES POT 0.2W 5K LINEAR W/SWITC 16mm	810282	1
167	WIRE ASSY AEU-425 FIBER OPTICS	875040	1
168	FIBER OPTIC AEU-425 ASSY	330407	1
169	PCB ASSY AEU-425 FIBER OTPICS BOARD	330357	1
170	VALVE 2 WAY NORMALLY CLOSED 24VDC	730469	2
171	CABLE ASSY MOTOR CONN/WATER AEU-425 FAMILY	875048	1
172	WIRE SET AEU-425 MOTOR CONTROL	875026	1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186 192
102 84 187 191
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37 38
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214
178 179
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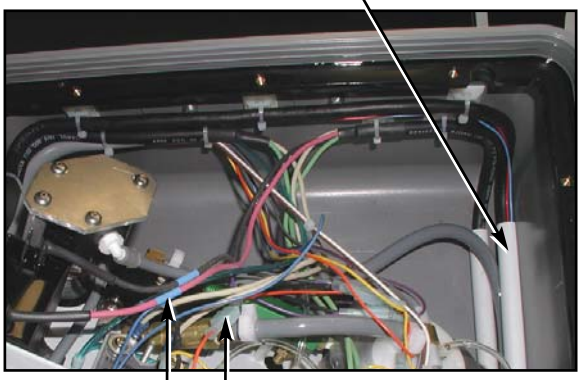
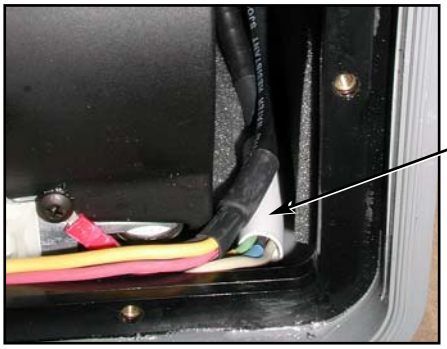
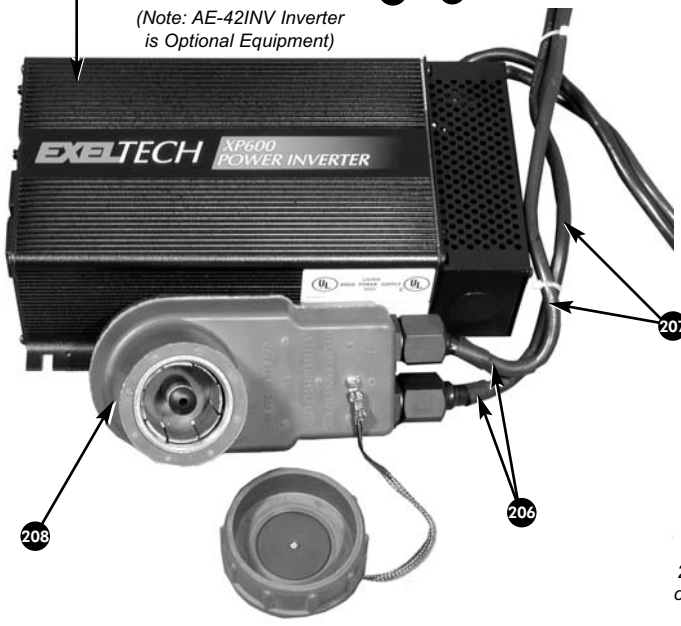
185
RPM
TRANSPORT II
PORTABLE DENTAL SYSTEM
OFF
ON
POWER INLET
SCALER OPTION
COOLANT
INTENSITY
ACTIVATION
SCALER-MOTOR SELECT
FOOT SWITCH
COOLANT
MICRO-MOTOR
MOTOR CONNECT
LIGHT INTENSITY

ITEM	DESCRIPTION	PART NO.	Qty
173	WIRE PVC #18 1000FT WHT (9) 1007-181630-9 (BINSTOCK)	870031	2.46 Ft
174	WIRE PVC #18 1000FT BLK (0) 1007-181630-0 (BINSTOCK)	870026	2.54 Ft
175	TERM FEM CONN .187 X .032 22-16 (BINSTOCK)	860053	4
176	SWITCH COVER (PROTECTION CAP)	850036	1
177	SWITCH ROCKER DPST BLK/WHT PLUG IN 4,8 UL	830018	1
178	FUSE 5X20MM SLO-BLO 0.630A	830091	4
179	SPACER AEU-425 FUSE EXTENDER	461152	2
180	HEAT SHRINK 3/16 BLK TABLE 300011 (BINSTOCK)	870119	0.27 Ft
181	CONN .156 TERM CRIMP 18-24 TIN PLT LOOSE08-50-0106 (BINSTOCK)	860033	4
182	CONN .156 HSNG LOCK 3 PIN (BINSTOCK)	860018	2
183	FUSE HOLDER 5X20MM PAN MNTG SHK SAFE	830090	2
184	FUSE 5X20MM SLO-BLO 6.3A 250V	830078	4
185	POWER INLET W/FUSE HOLDR 2POLE LINE FILTERED	840067	1
186	PCB ASSY AEU-425 POWER/CONTROL	330350	1
187	WASHER FLAT NYLON, .120IDX.250 ODX.032T, (BINSTOCK)	510127	4
188	C/S SOCHD SNTLS 10-32X1-1/8	510502	4
189	WASHER SPLIT STNLS #10 LOCK (BINSTOCK)	510559	4
190	SPACER ALUM 10-32X13/16LX5/16 HEX FEM STDF	510536	4
191	SPACER NYL 1/4RNDX.210LX.14ID	510022	8
192	INSULATOR AEU-425 POWER BOARD	461156	1
193	OVERLAY AEU-425 CONTROL PANEL	420233	1
194	WINDOW GRN ACETATE 2.63X.75 AEU-400/425	460952	1
195	CHASSIS AEU-425 ELECTRONC CMPL TRANSPORT II DENTAL	460848-08	1





(Note: AE-42INV Inverter is Optional Equipment)



213 214

(Note: Items No. 213 & 214 Shown on Pages 12 & 18, respectively.)

ITEM	DESCRIPTION	PART NO.	Qty
196	LABEL PRES SENS ASEPT ADDRESS	420083	1
197	FOAM CASE BOTTOM AEU-425	461047	1
198	FOAM CASE SIDE AEU-425	461046	1
199	COVER AEU-425 HIDE-A-CORD 11"	461045	2
200	COVER AEU-425 HIDE-A-CORD 1.5"	461043	1
201	CHASSIS AEU-425 MOUNT ELECTRON	461017	2
202	M/S STNLS PHDPHL 8-32 X 1/2 (BINSTOCK)	510545	4
203	HOLDER SPRING ACTION	730445	1
204	CASE AEU-425CF ABS GRAY-W/OUT HANDLE AND WHEELS	410153	1
205	INVERTER AEU-425CF ASSY - OPTIONAL EQUIPMENT	AE-42INV	1
206	HEAT SHRINK 3/4" D BLK	870215	1
207	CABLE 4 AWG BATTERY	870247	2
208	CONN NATO AEU-425	860141	1
209	INVERTER 24V TO 120V	840065	1
210	FTN QD CDC ELBW MALE 1/2" BARB POLYSULFONE HFC23835	730487	1
211	HEAT SHRINK 1/8" BLUE	870255	0.75 Ft
212	CASE MIL-SPEC ADC-08 W/FOAM ARMY GREEN USED ON AEU-425	410097-08	1
213	TUBE AEU-425 VACUUM	461498	1
214	M/S STNLS FLAPHL 4-40X3/8 (BINSTOCK)	510112	2
Not Shown	HYGOFLEX SALIVA EJECTOR 250 PER PACKAGE	O-260	2
Not Shown	LINECORD REMOTE US 10FT HOSP GREY 15A/125V	840049	1
Not Shown	LINECORD REMOTE EURO BLK	840007	1
Not Shown	POUCH STORAGE AEU-425 12 X 7-1/4 X 2-1/2	410133	1
Not Shown	POUCH STORAGE ASC-12 CORD	410153	1
Not Shown	POUCH STORAGE AEU-425 TUBE	410174	1

AEU-425CFH SYSTEM ONLY

Includes the Following Items:

Not Shown	HPCE 5/1 CONTRA INCREASER W/ FIBEROPTICS & WATER MONT BLANC	AHP-72MBFO	2
Not Shown	HPCE 1:1 CONTRA 30K W/EXTERNAL	AHP-63	2
Not Shown	HANDPIECE STRAIGHT 1:1 40K	AHP-64	1

AEU-425CF/CFH SPECIFICATIONS:

AEU-425CF/CFH Transport MDS

Size:	10.5” x 14.5” x 24” (27 cm x 36 cm x 61 cm)
Volume:	1.81 cu. ft. (0.05 $m^{3)}$
Weight:	46.5 lbs (20.9 kg)
Power Source:	AC Dual Voltage Auto-Switching 120 V @ 60 Hz or 230 V @ 50 Hz /60 Hz
Power Inverter:	24 V DC to 120 V AC
Power Rating:	800 W
Operating Pressure:	45 - 50 PSI (344 kPa)
Constant Air Flow Pressure:	40 PSI, 0.4 SCFM (275 kPa, 11.2 liters/min)
High Volume Vacuum:	3.3 SCFM @ -4.0” Hg (7.5 liters/min)
Low Volume Vacuum:	1.3 SCFM @ -1.5” Hg (1.67 liters/min)
Air Reserve Capacity, Standard:	61.0 cu. in. (1000 cc)
Water Reservoir Capacity:	33.9 fl. oz. (1.0 liter)
Water Flow:	6.5 fl. oz./min (0.192 liters/min)
High Volume Waste Tank Capacity:	0.2 gal. (0.75 L)
Low Volume Waste Tank Capacity:	0.11 gal. (0.4 L)
Duty cycle for AE-200-30 motor:	Water coolant/irrigant on: Continuous (100%) Water coolant/irrigant off: Intermittent use - 2 minutes on and 3 minutes off (40%)
Noise Levels	72 ± dB @ 3’4” (1 m)

AEU-425CF/CFH Transport MDS with Optional Inverter and NATO Connector in Mil. Spec. Case

Size:	25.5“ x 24“ x 12“ (65 cm x 61 cm x 30.5 cm)
Volume:	4.25 cu. ft. (0.12 m^3)
Weight (Total):	80.1 lbs (36 kg)

Notes

Notes

For Further Service And/Or Technical Assistance Contact:

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